activity than its bis-chloroethyl analog, which can be ascribed to the higher ability of the mesylate unit to act as a leaving group. A related ADEPT approach that also underwent phase I clinical trials used the carbamate prodrug ZD-2767P, which releases the corresponding iodo nitrogen mustard (Figure 13.28).[35]

β-Lactamases have low toxicities and are stable and easy to purify. Because of these advantages, they have received much attention in ADEPT therapy and have been reported to activate a variety of prodrugs, allowing the release of many commonly used cancer drugs. For example, the bioactivation of a β-lactamase prodrug of a nitrogen mustard is shown in Figure 13.29.

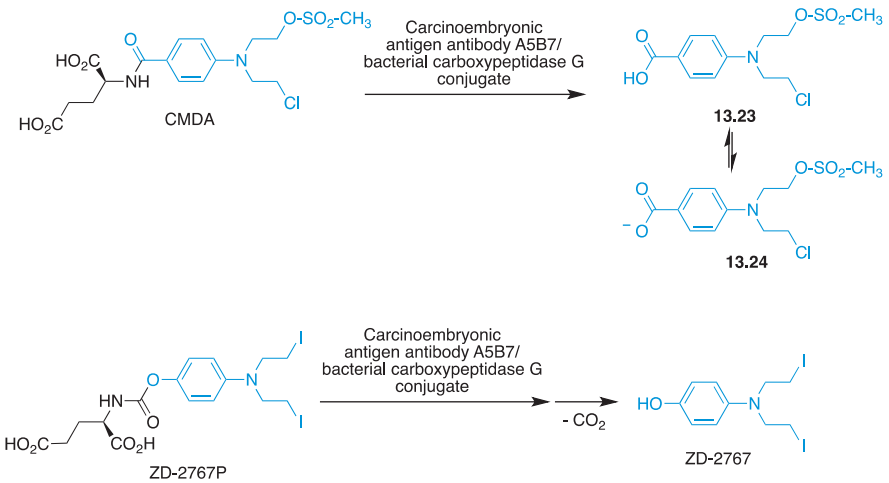

FIGURE 13.28

Some ADEPT approaches to chemotherapy with nitrogen mustards.

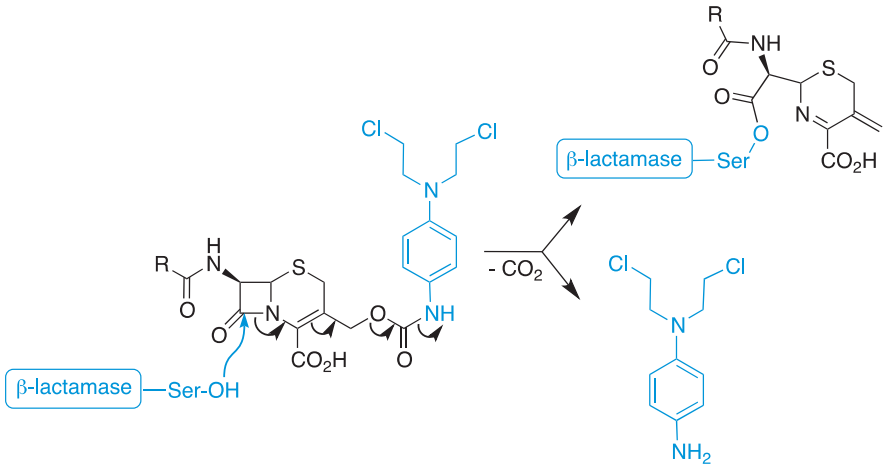

FIGURE 13.29

β-Lactamases in ADEPT therapy.